

any locality within the state. I also have collected in that interesting spot on several occasions but it has eluded me, although I made one trip with the specific intent of finding it! Except for the one specimen collected by Little, and deposited in this herbarium, no other record for it seems extant.

ASTER SPINOSUS Benth. CLEVELAND COUNTY: in sandy meadow on margin of bank of South Canadian River near Norman, *Charles Smith*, no. 701.

This interesting plant of New Mexico and Texas was found in September, 1937. I went with Mr. Smith to his station and found several large clumps which appeared to be several years old and which were apparently brought in by one of the annual floods which are characteristic of the South Canadian. No other record of its appearance in Oklahoma, or at any other locality so far east, is familiar to me.

NOTEWORTHY PLANTS OF SOUTHEASTERN VIRGINIA

M. L. FERNALD

(Continued from p. 424)

RUBUS OCCIDENTALIS L. SUSSEX COUNTY: rich deciduous woods south of Stony Creek, no. 8303. Noted locally eastward to SURRY COUNTY.

*R. PHOENICOLASIUS Maxim. SOUTHAMPTON COUNTY: alluvial woods, bottomland of Three Creek, Drewryville, no. 7880.

*RUBUS (CUNEIFOLIUS) **Longii**, sp. nov. (TAB. 521 et 522), arcuato-adscendens vel deinde depressus; turionibus 6 dm. altis pilosis glabratissime aculeis 4-6 mm. longis basi dilatatis rectis numerosis armatis; foliis primariis 3-foliolatis longe petiolatis, petiolis cinereo-villosis remote armatis, foliolis imis 5-7 cm. longis 3.5-5 cm. latis oblique rhomboideo-ovalibus lobatis vel divisis subtus densissime cinereo-tomentosis supra dense pilosis abrupte acuminatis grosse duplicato-serratis basi subcuneatis integrisque; foliolis terminalibus elliptico-ovatis vel obovatis basi rotundatis; caulibus fructiferis valde arcuatis; foliis trifoliolatis, foliolis ellipticis 2.5-3.5 cm. longis subtus cinereo-pilosis anguste serratis; inflorescentia corymbiformi basi foliosa; rachibus villosis-tomentosis; pedicellis valde adscendentibus villosis-tomentosis plus minusve armatis; sepalis oblongis tomentosissimis apice breviter caudatis; fructibus subglobosis 1.7-2 cm. diametro.—Sussex County, VIRGINIA: bushy margin of a peaty and argillaceous swale north of Littleton, June 10, 1938, *Fernald & Long*, no. 8298 (TYPE in Herb. Gray; ISOTYPE in Herb. Phil. Acad.).

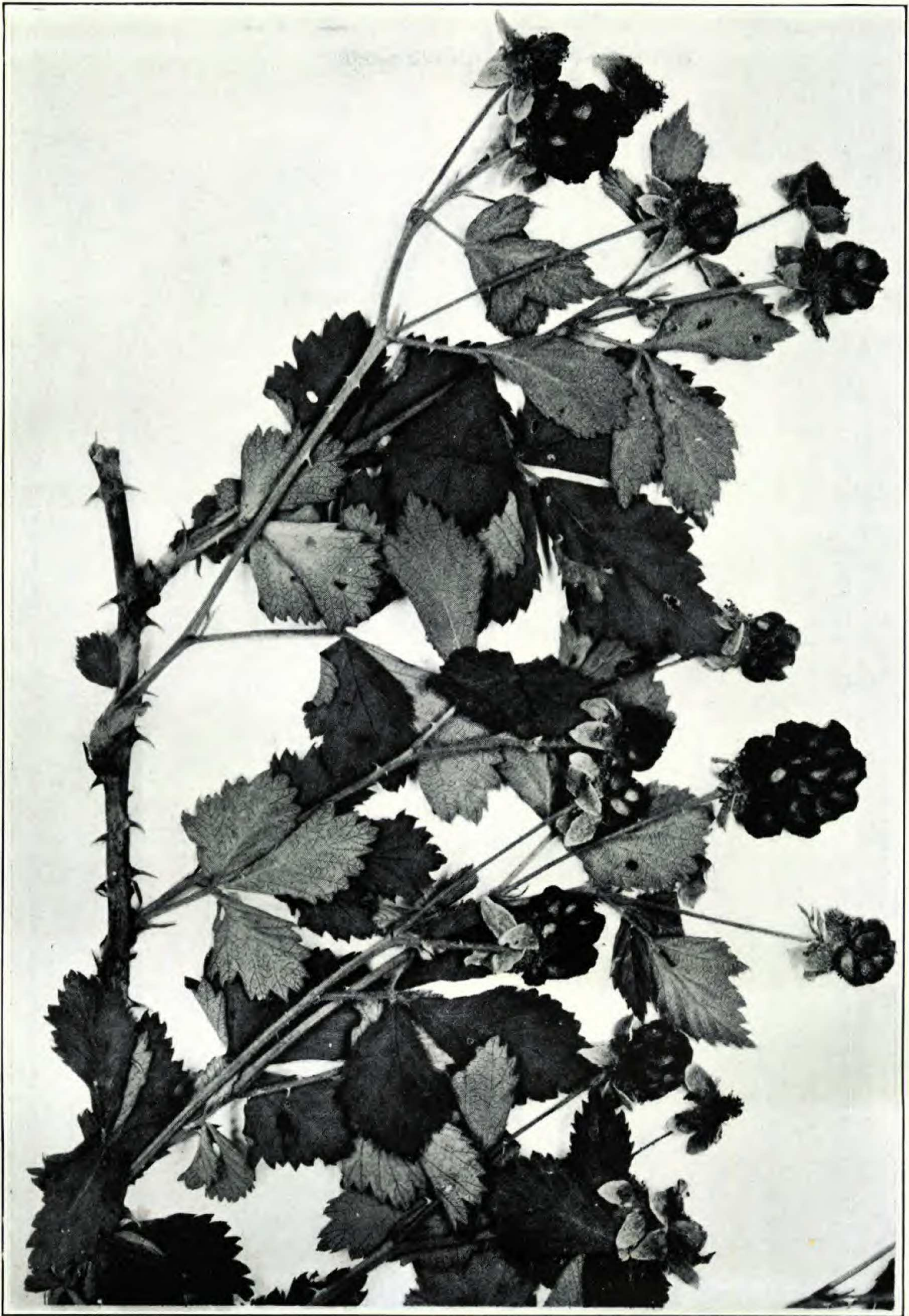


Photo. H. G. Fernald.

RUBUS LONGII: fructing branch from TYPE, $\times 1$.

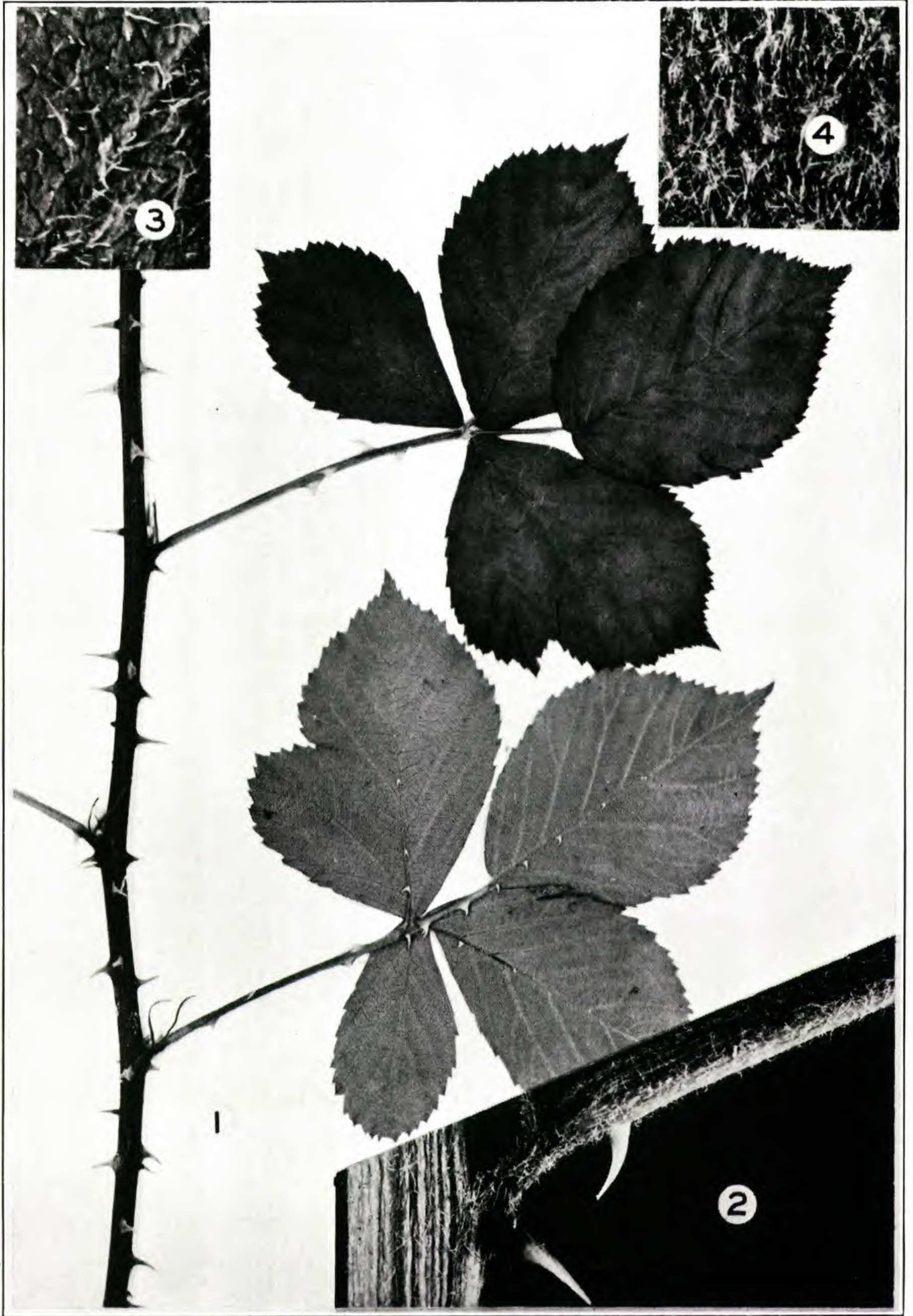


Photo. H. G. Fernald.

RUBUS LONGII: FIG. 1, portion of primocane, $\times \frac{3}{4}$; FIG. 2, base of petiole, $\times 4$; FIG. 3, upper surface of leaf, $\times 10$; FIG. 4, lower surface of leaf, $\times 10$.

Rubus Longii is so distinctive a blackberry that it at once won the enthusiasm of my companion, who, ordinarily, was as willing as I to pass the average run of *Rubus* (except to test the fruits, in *R. Longii* of superior quality). In its primocanes, with their leaves chiefly 3-foliolate, it is apparently a member of the *Cuneifolii*. From the stiffly ascending *R. cuneifolius* Pursh, which has smaller subtruncate to round-tipped leaflets white-pannose beneath, it differs at once in the larger abruptly acuminate leaflets with a longer cinereous tomentum beneath, and its corymbs have acuminate-tipped leaflets and fewer prickles. Furthermore the fruiting canes are low-arching to depressed. Bailey, *Gentes Herbarum*, ii. fasc. vi. (1932), recognizes, besides *R. cuneifolius*, three species of the *Cuneifolii*. *R. audax* Bailey, a "diffuse open tall harsh crabbed briar" of southern Florida, has the leaflets of the floricanes strongly rounded, instead of acuminate. *R. probabilis* Bailey, which occurs in eastern Virginia, is a taller shrub with leaflets of the glabrous primocanes oblong, often in 5's, and glabrous (instead of pilose) above, the inflorescence strongly armed. *R. inferior* Bailey, a prostrate or diffuse plant of Florida, has narrower and smaller leaflets without acumination and strongly armed pedicels.

If *Rubus Longii* be sought in the *Arguti* it might be placed near *R. frondosus* Bigel. or with *R. multispinus* Blanchard. Both of these are much coarser and larger-leaved plants, with glabrous primocanes bearing chiefly 5-foliolate leaves with glabrous petioles; *R. Longii*, a much smaller plant, having pilose primocanes with mostly 3-foliolate leaves strongly pilose above, cinereous-tomentulose beneath and on densely villous petioles.

The type-station of *Rubus Longii* is our only locality in Virginia for *Polygala ramosa* and *Acerates floridana*. See p. 398.

ALCHEMILLA MICROCARPA Boiss. & Reut. NORFOLK COUNTY: near Norfolk, May 15, 1832, *Wm. Darlington*. PRINCESS ANNE COUNTY: sandy open ground near beach, Virginia Beach, May 17, 1912, *B. L. Robinson*, no. 325. HENRICO COUNTY: "Hollywood," Richmond, May 5, 1894, *J. R. Churchill*. BEDFORD COUNTY: without stated locality, June 3, 1871, *A. H. Curtiss*.

This is the little annual (of § *Aphanes*) which has passed in eastern America as *Alchemilla arvensis* (L.) Scop. It is abundantly distinct from the European *A. arvensis* in its small leaves and minute flowers. Rydberg, taking it for an endemic native of the South, described it as

Aphanes australis Rydberg in N. Am. Fl. xxii. 380 (1908); but it perfectly matches the southern European (of Spain, Sardinia, etc.) *Alchemilla microcarpa* Boissier & Reuter. It was doubtless early introduced into the South and such habitats noted on labels, as "low pasture," "door-yard," etc., definitely suggest that it is an introduced weed. Dr. Lily M. Perry kindly calls my attention to an earlier reduction of *Aphanes australis* Rydb. to *Alchemilla microcarpa* by Rothmaler in Fedde, Repert. xxxviii. 40 (1935).

ROSA CAROLINA L. (*R. humilis* Marsh.). Seen by us only rarely on the Coastal Plain of Virginia. DINWIDDIE COUNTY: border of swampy woods east of Burgess, no. 8304. Noted in GREENSVILLE COUNTY.

R. CAROLINA, var. GLANDULOSA (Crépin) Farwell. Seen by us only once on the Coastal Plain of Virginia. GREENSVILLE COUNTY: rich deciduous woods by Metcalf Branch, east of Emporia, no. 8305. See p. 380.

CROTALARIA ANGULATA Mill. (*C. rotundifolia* (Walt.) Poir.). To the stations in Nansemond and Isle of Wight Counties add two from SOUTHAMPTON COUNTY: border of sandy woods about 3 miles east of Drewryville, no. 7455; dry sandy pine and oak woods about 7 miles south of Franklin, no. 8312.

I am indebted to Dr. H. A. Senn for calling my attention to the earliest name for the species.

C. PURSHII DC. To the stations already reported add two in SOUTHAMPTON COUNTY: border of sandy woods, Hart's Bridge, no. 8313, exceptionally large plants, with stems up to 4.5 dm. high; border of sandy woods, Mars Hill Church, no. 9063, plants 6 dm. high! See p. 378.

*C. SPECTABILIS Roth (*C. Retzii* Hitchc.). SUSSEX COUNTY: dry field, Homeville, no. 7456. See p. 372.

*WISTERIA SINENSIS Sweet. SUSSEX COUNTY: woods, south of Littleton, thoroughly naturalized, climbing high over trees, no. 7883 (misidentified as *W. floribunda*).

ASTRAGALUS CANADENSIS L. Extending down the James to SURRY COUNTY: rich alluvial woods and thicket back of sand-beach of James River, Claremont Wharf, no. 8317; similar habitat, below Sunken Meadow Beach, no. 8318. See p. 383.

DESMODIUM PAUCIFLORUM (Nutt.) DC. SOUTHAMPTON COUNTY: alluvial woods, bottomland of Meherrin River, near Haley's Bridge, no. 8319. SUSSEX COUNTY: alluvial woods, upper terrace of Nottoway River, southwest of Burt, no. 7462. SURRY COUNTY: dry woods northwest of Surry, no. 8726. Apparently general in alluvium.

D. TENUIFOLIUM T. & G. To the first Virginian station (in Isle of Wight County) add from DINWIDDIE COUNTY: sphagnous bog about

1 mile northeast of Burgess, no. 7473. SUSSEX COUNTY: sphagnous depression just northwest of Wakefield, no. 8730. GREENSVILLE COUNTY: sphagnous bog about 1 mile northwest of Dahlia, no. 8731.

DESMODIUM CILIARE* (Muhl.) DC., var. **lancifolium Fernald & Schubert, var. nov. (TAB. 523), foliolis lanceolatis apice attenuatis, terminalibus 2–3.3 cm. longis ca. 1 cm. latis.—VIRGINIA: dry sand, pine barren about 7 miles south of Franklin, Southampton County, September 7 and 8, 1937, *Fernald & Long*, no. 7474 (TYPE in Gray Herb., ISOTYPE in Herb. Phil. Acad). See p. 366.

With the characteristic fruit of *Desmodium ciliare* (*D. obtusum* of authors), which has oval to round-ovate obtuse leaflets. As shown by Urban and subsequently by Blake (*Bot. Gaz.* lxxviii. 276) the type of *Hedysarum ciliare* Muhl. belongs to the species which has been passing as *Desmodium obtusum* (Muhl.) DC., while the type of *H. obtusum* Muhl. is not conspecific with it.

**LESPEDEZA CUNEATA* G. Don. Roadsides and borders of woods, rather general. The following collections have been made: DINWIDDIE COUNTY: roadside gutter, border of swampy woods northwest of Carson, no. 7478. PRINCE GEORGE COUNTY: argillaceous roadside near Gary Church, no. 7479. SURRY COUNTY: roadside, Claremont Wharf, no. 8320.

Tall, erect annual from Asia, with white corolla, the standard with a blue-purple band. Originally introduced as a field-crop.

LESPEDEZA ACUTICARPA Mackenzie & Bush. To the station in Princess Anne County (first from Atlantic slope) reported by Fernald & Griscom, *RHODORA*, xxxvii. 167 (1935) add from NORTHAMPTON COUNTY: dry pine woods near Capeville, *F. L. & F.*, no. 5333.

LESPEDEZA CAPITATA* Michx., var. **hirtiformis, var. nov. (TAB. 524), caule dense velutino; foliolis late elliptico-ovalibus vel obovatis utrinque sericeis.—VIRGINIA: border of dry woods, Zion's Church, northwest of Whaleyville, Nansemond County, September 17, 1937, *Fernald & Long*, no. 7481 (TYPE in Gray Herb., ISOTYPE in Herb. Phil. Acad.). PLATE 524, $\times 2/5$. See p. 367.

Lespedeza capitata, with its short peduncles, densely capitate-spicate inflorescences and long calyx, throughout its broad range usually has narrowly oblong to narrowly lanceolate or linear leaflets. We have never before met it on the Coastal Plain of Virginia, except in the narrowest-leaved extreme, var. *longifolia* (DC.) T. & G. (with linear leaflets). Var. *hirtiformis* in its very broad rounded leaflets closely simulates *L. hirta* (L.) Hornem.; but its short peduncles, capitate spikes and large calyx place it clearly with *L. capitata*. The

colony near Whaleyville (a few miles west of the Great Dismal Swamp) is extensive.

STYLOSANTHES RIPARIA* Kearney, var. **setifera, var. nov., a forma typica recedit caulibus plus minusve hirsuto-setiferis, setis horizontaliter divergentibus 1–2 mm. longis; corollis lacteis.—VIRGINIA: dry thicket by Ivor Road, east of Courtland, June 10, 1938, *Fernald & Long*, no. 8321 (TYPE in Gray Herb.; isotypes in Herb. Phil. Acad. and elsewhere).

When we first detected this white-flowered plant, forming a colony adjacent to typical yellow- or orange-flowered *Stylosanthes riparia*, we took it to be an albino. Upon examining the specimens as they went into press it was found that their stems bore stiff setiform divergent hairs suggestive of the pubescence of *S. biflora* (L.) BSP., var. *hispidissima* (Michx.) Pollard & Ball. Accordingly, we returned to the station, expecting to find the yellow-flowered plant hispid. It proved to be perfectly typical, however, in having the stems only minutely pilose or puberulent; but all the white-flowered plants had hispid stems. The plant cannot, therefore, be treated merely as an albino.

A small colony of a true albino form of the species was found in July; this is

S. RIPARIA* Kearney, forma **ochroleuca, f. nov., a forma typica recedit petalis ochroleucis.—VIRGINIA: a few plants among typical orange-flowered ones, dry border of woods about 1 mile north of Skipper's, Greensville County, July 15, 1938, *Fernald & Long*, no. 8732 (TYPE in Herb. Gray; ISOTYPE in Herb. Phil. Acad.).

VICIA CAROLINIANA Walt. Apparently local on the Coastal Plain. GREENSVILLE COUNTY: dry rich woods near Metcalf Branch, east of Emporia, no. 7886. SOUTHAMPTON COUNTY: dry woods, thickets and clearings along Three Creek, Drewryville, no. 5813.

LATHYRUS HIRSUTUS L. To the first reported Virginian station (in Henrico County) add from SURRY COUNTY: roadside thicket, Claremont Wharf, no. 8324.

PHASEOLUS POLYSTACHYUS (L.) BSP. Rare on the Coastal Plain. PRINCE GEORGE COUNTY: dry wooded slopes of gullies near Powell's Creek, Garysville, no. 8325. SOUTHAMPTON COUNTY: dry sandy open pine and oak woods 6 to 7 miles south of Franklin, nos. 8326, 8736. DINWIDDIE COUNTY: borders of dry pine and oak woods, south of Burgess Station, no. 9080. See p. 380.

Very often *Phaseolus polystachyus* has forking racemes or even panicles. Our material closely matches the Clayton specimen (type of the species) in having them quite simple.

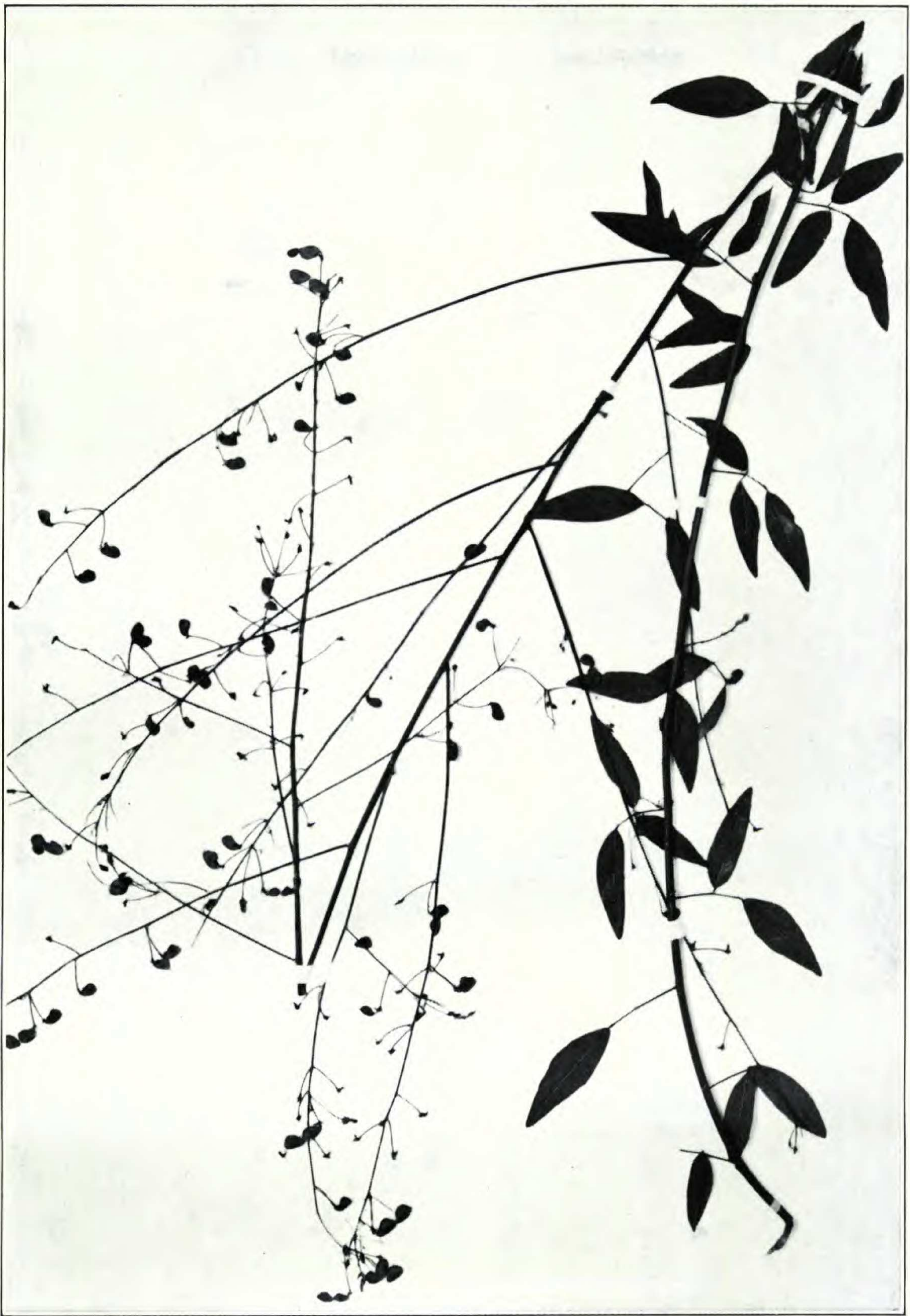


Photo. H. G. Fernald.

DESMODIUM CILIARE, var. LANCIFOLIUM, $\times \frac{1}{2}$.



Photo. H. G. Fernald.

LESPEDEZA CAPITATA, var. HIRTIFORMIS: TYPE, $\times \frac{2}{5}$.

POLYGALA HARPERI Small. To the first Virginian stations (in Sussex County) add stations from three other counties. **NANSEMOND COUNTY**: damp sandy field north of Factory Hill, *F. & L.* in *Plantae Exsiccatae Grayanae* (not yet issued). **GREENSVILLE COUNTY**: peaty and argillaceous clearing about 4 miles southeast of Emporia, no. 4336. **SURRY COUNTY**: border of oak woods southwest of Surry, no. 8752.

***P. CRUCIATA** L., var. **CUSPIDATA** Wood (Var. *ramosior* Nash; *P. cuspidata* Hook.; *P. ramosior* (Nash) Small). **SUSSEX COUNTY**: moist pinelands just southeast of Waverly, no. 7501. **SOUTHAMPTON COUNTY**: clearing in wet argillaceous pineland northeast of Courtland, no. 7503. Other collections transitional. See p. 366.

P. VERTICILLATA L., *sensu* Fernald in *RHODORA*, xl. 337, pl. 501 (1938). *P. Pretzii* Pennell. **GREENSVILLE COUNTY**: peaty and argillaceous clearing about 4 miles southeast of Emporia, no. 8754. See p. 377.

In his study of the group Pennell (*Bartonia*, no. 13: 12–15 (1931)) cites the prevailing inland *Polygala Pretzii* (true *P. verticillata* L., as shown in *RHODORA*, l. c.) from no Coastal Plain station south of New Jersey. Our plant is thoroughly typical, although it passes by free transitions into the next, which in turn passes into the newly described variety.

P. VERTICILLATA L., var. **AMBIGUA** (Nutt.) Wood (*P. ambigua* Nutt.). **GREENSVILLE COUNTY**: peaty and argillaceous clearing about 4 miles southeast of Emporia, nos. 8333, 8755. **PRINCE GEORGE COUNTY**: dry sandy woods and clearings about 3 miles southeast of Petersburg, at head of Poo Run, no. 6650. **DINWIDDIE COUNTY**: clearings and borders of pine and oak woods south of Burgess Station, no. 9086. See p. 377.

In his study of the group above referred to Pennell (p. 16) cites this commonly inland variety (as *P. ambigua* Nutt.) from no Coastal Plain stations south of New Jersey, its southeastern stations indicated as close to the Fall Line. Our three stations are on the Coastal Plain of southeastern Virginia. Several specimens in the Gray Herbarium, determined by Pennell as *P. ambigua*, from Missouri, Arkansas and Oklahoma, depart conspicuously from it in their very large white wings. Attention was called to this undescribed plant by our finding it also in Greensville County, Virginia. This is

***P. VERTICILLATA** L., var. **dolichoptera**, var. nov. (TAB. 525, FIG. 1 et 2), var. *ambiguae* similis; floribus lacteis; alis ellipticis 2–2.6 mm. longis quam capsula valde longioribus.—Virginia, Missouri, Arkansas and Oklahoma. **VIRGINIA**: peaty and argillaceous clearing about 4 miles southeast of Emporia, Greensville County, June 18, 1938, *Fernald & Long*, no. 8334 (TYPE in Herb. Gray; ISOTYPES in Herb.

Phil. Acad. and elsewhere), July 14, 1938, *Fernald & Long*, no. 8756, also in *Plantae Exsiccatae Grayanae* not yet issued. MISSOURI: Green County, July 23, 1897, *J. W. Blankinship*; woods, Eagle Rock, August 7, 1905, *Bush*, no. 3159; rocky woods, Noel, August 7, 1908, *Bush*, no. 5057. ARKANSAS: dry hills, southern Arkansas, *F. L. Harvey*, no. 101; dry and rocky floor of Maumel Mt., Pulaski County, October 16, 1931, *Delzie Demaree*, no. 8580; open woods, North Mt., Hot Springs, September 6, 1935, *F. J. Scully*, no. 266. OKLAHOMA: rocky creek-bank, Page, Laflore County, June 20, 1914, *O. W. Blakley* (*G. W. Stevens*, no. 1437). See p. 377.

Var. *dolichoptera* has the habit of *Polygala verticillata*, var. *ambigua* but its flowers (FIGS. 3 and 4) are much larger, var. *ambigua* having the wings only 1–1.5 mm. long and about equaling the capsule (FIG. 4). The bright- or milk-white flowers of var. *dolichoptera* are striking, though not wholly distinctive, for they show a tendency in age to change to pinkish. The plants are tall for any form of *P. verticillata*, the larger loosely bushy-branched plants of our no. 8756 being fully 4 dm. high.

STILLINGIA SYLVATICA L. SOUTHAMPTON COUNTY: dry open sandy pine and oak woods 6 to 7 miles south of Franklin, locally abundant, nos. 7508, 8337, 8338. See p. 380.

EUONYMUS ATROPURPUREUS Jacq. SURRY COUNTY: rich calcareous woods at head of Sunken Meadow Creek, south of Claremont, no. 8357. See p. 382.

*CELASTRUS ORBICULATUS Thunb. CAROLINE COUNTY: thoroughly naturalized in fence-row south of Milford, no. 7524. See p. 365.

An Asiatic species, becoming naturalized as far north as southeastern New York.

STAPHYLEA TRIFOLIA L. Extending locally into the Coastal Plain. SURRY COUNTY: rich wooded gullies along James River, below Sunken Meadow Beach, no. 8358 (trunks up to 7.5 m. high and 7 cm. in diameter). SUSSEX COUNTY: alluvial woods, Nottoway River, southwest of Lambs, no. 7525. GREENSVILLE COUNTY: rich deciduous woods along Three Creek, north of Emporia, no. 8359. See p. 382.

ACER FLORIDANUM Pax. GREENSVILLE COUNTY: abundant in rich deciduous woods by Metcalf Branch, east of Emporia, no. 8360. AMELIA COUNTY: alluvial woods along Deep Creek, about 1 mile southeast of Beaver Pond, no. 9096 (station shown us by Mr. John B. Lewis). See p. 380.

Small (Man.) says "Fla. to La. and S. C. Naturalized in N. C. Reported from Va." At our station it is the dominating tree in an extensive area of undisturbed (except for cutting) forest, with a striking group of local natives: *Scleria oligantha*, *Carex flaccosperma*,

Silene virginica, *Clematis ochroleuca*, *Rosa carolina* var. *glandulosa*, *Aesculus discolor*, *Phlox nivalis*, *Phacelia dubia* and *Coreopsis auriculata*, while the wooded bottomland close by supports an extensive area of isolated *Glyceria arkansana*. Sargent (Man. Trees, ed. 2) reports *Acer floridanum* from near McKenney, Dinwiddie County; and Mr. Lewis told us of a second station in Amelia County.

AESCLUSUS DISCOLOR Pursh. GREENSVILLE COUNTY: dry rich woods and bottomland-woods by Metcalf Branch, east of Emporia, nos. 7895, 7894. See p. 374.

These flowering specimens confirm the identification in RHODORA, xxxix. 352 and 435. The station was there erroneously given as Caney Branch (which crosses the Courtland road to the east of Metcalf Branch).

***VITIS CINEREA** Engelm. GREENSVILLE COUNTY: alluvial woods, bottomland of Meherrin River, near Haley's Bridge, no. 8363. See p. 375.

Apparently the first on the Atlantic slope from north of Florida, although the rufescent var. *floridana* Munson (*V. Simpsoni* Munson; see RHODORA, xxxviii. 426), cited by Small only from Florida and by Bailey as extending north into Georgia, is abundant on practically all bottomlands.

V. VULPINA L. Following the James at least to SURRY COUNTY: rich alluvial woods and thicket back of sand-beach of James River, Claremont Wharf, no. 8361; seen also at Eastover. See p. 375.

TILIA MICHAXII Nutt. SURRY COUNTY: rich woods on fossiliferous sandy slopes of gullies near Claremont Wharf, no. 7897; rich woods and thickets back of sand-beach of James River, Eastover, no. 8763. See p. 375.

A species of the interior, Sargent (Man. ed. 2) saying "southward . . . along the Appalachian Mountains." Leaves cordate-ovate, loosely pubescent beneath.

T. HETEROPHYLLA Vent. SURRY COUNTY: with the last, no. 8365. See p. 375.

Tall tree; leaves strongly oblique, permanently white-felted beneath. Also an upland tree, Sargent, l. c., giving the northeastern areas of its range: "White Sulphur Springs, Greenbrier County, West Virginia; Piedmont region of North and South Carolina and Georgia." The tree is not, however, new to Virginia. Several collections from the western half of the state are represented in the Gray Herbarium.

MALVA ROTUNDIFOLIA* L., not of most American authors (*M. pusilla* With., *M. borealis* Wallm.). See C. V. Morton, *RHODORA*, xxxix. 99 (1937). **DINWIDDLE COUNTY: waste place, Petersburg, no. 8366.

HYPERICUM PROLIFICUM L. **SURRY COUNTY**: rich woods and thicket back of the sand-beach of the James River, below Sunken Meadow Beach, no. 8368. **PRINCE GEORGE COUNTY**: locally very abundant in low open woods, Flowerdew Hundred, no. 8769, shrubs up to 2.5 m. high. **CHARLES CITY COUNTY**: alluvial woods by James river, Harrison Point, no. 9100. See p. 382.

An inland and upland species apparently not recorded from the Coastal Plain.

H. NUDIFLORUM Michx. Reported, *RHODORA*, xxxvii. 432 (from Princess Anne County), as new to Virginia. Now known as a scattered shrub nearly to the Fall Line, in **NANSEMOND, SUSSEX and DINWIDDIE COUNTIES** (many nos.).

H. ADPRESSUM* Bart. **SUSSEX COUNTY: border of a wooded swamp north of Stony Creek, nos. 8367, 8767.

First in the Gray Herbarium from between Delaware and North Carolina.

H. DENTICULATUM Walt., var. *OVALIFOLIUM* (Britton) Blake. To the first Virginian station (in Sussex County), reported in *RHODORA*, xxxix. 337 and 435 add the following. **ISLE OF WIGHT COUNTY**: sandy and peaty border of Cat Pond, south of Benns Church, no. 7530. **YORK COUNTY**: borders of small pond-holes in woods, northwest of Grafton, no. 7531. See p. 371.

H. SETOSUM L. **SUSSEX COUNTY**: ditch bordering dry argillaceous pinelands about 4 miles northwest of Waverly, no. 7532; moist pinelands just southeast of Waverly, no. 7533, abundant. **GREENSVILLE COUNTY**: peaty openings bordering wooded swamp north of Skipper's, no. 9101. See p. 366.

VIOLA AFFINIS LeConte, var. *CHALCOSPERMA* (Brainerd) Griscom. To the first Virginian record (from Southampton County) should be added one from **NANSEMOND COUNTY**: alluvial wooded bottomland of Somerton Creek, Factory Hill, no. 8371.

V. LANGLOISII* Greene, var. *PEDATILOBA* Brainerd. **SOUTHAMPTON COUNTY: dry wooded slopes by Three Creek, Drewryville, no. 7908. See p. 375.

Seemingly quite like the original material from Louisiana.

V. ESCULENTA Ell. To the one reported Virginian station (in Norfolk County) add one in **GREENSVILLE COUNTY**: rich woods by Three Creek, 2 miles north of Emporia, no. 7990. See p. 375.

V. EMARGINATA* (Nutt.) LeConte, var. *ACUTILOBA* Brainerd. **SUSSEX COUNTY: dry pine woods east of Burt, no. 7541, quite like

the original material from the District of Columbia. JAMES CITY COUNTY: damp clearing in rich woods south of Hotwater, no. 8780.

V. LANCEOLATA L. SUSSEX COUNTY: sandy woods near Mars Hill Church, no. 7898.

Apparently rare on the Inner Coastal Plain, though common in eastern Princess Anne County and on the Eastern Shore. Grimes did not find it on the Peninsula of Virginia.

V. LANCEOLATA, var. VITTATA (Greene) Weath. & Grisc. To the first Virginian station (in Sussex County) reported add one from ISLE OF WIGHT COUNTY: sandy and peaty border of Cat Pond, south of Benns Church, no. 7543.

VIOLA KITAIBELIANA Roem. & Schultes, var. **Rafinesquii** (Greene), comb. nov. *V. bicolor* Pursh, Fl. Am. Sept. i. 175 (1814), not Gilibert (1781). *V. tenella* Muhl. Cat. 26 (1813) *nomen subnudum*; Eaton, Man. ed. 2: 496 (1818); Raf. in Am. Mo. Mag. iv. 191 (1819); not Poir. (1810). *V. Rafinesquii* Greene, Pittonia, iv. 9 (1899). PLATE 526, FIGS. 1, 2, 4 and 7.

Viola Rafinesquii is the one American representative of the prevalingly Eurasian and north African pansies which has been sometimes considered indigenous with us. Its behavior, however, is so decidedly that of early-established weeds of European, north African or Asiatic origin that its claims to being indigenous in the eastern United States seem no better than those of other weedy species, like *Poa compressa*, *Allium vineale*, *Arenaria serpyllifolia*, *Ranunculus bulbosus*, *Duchesnea indica*, *Potentilla argentea*, *Vicia angustifolia*, *Rhamnus cathartica*, *Hypericum perforatum*, *Ligustrum vulgare*, *Thymus Serpyllum*, *Solanum Dulcamara*, *Linaria vulgaris*, *Veronica arvensis* and *serpyllifolia*, *Lonicera japonica*, *Artemisia vulgaris*, *Cirsium lanceolatum*, and hundreds of others brought to us from abroad and now thoroughly at home in fields, recent clearings, pastures, open second- to fourth-growth woods near farms, or other altered habitats where they associate with and often crowd out the strictly indigenous plants.

The first record of the American plant was, apparently, by Gronovius, based upon Clayton's collection, in 1739: his "VIOLA caulibus & pedunculis quadratis, stipulis oblongis pinnato-dentatis, foliis ovato-oblongis crenatis. Flore est penitus albo. *Clayt.* n. 527," the identity established by Asa Gray who noted opposite the description in 1839 "*tenella* Pursh" (of course meaning *V. tenella* Muhl. as validated by Eaton, or *V. bicolor* Pursh which was separately named *V. tenella* by Rafinesque in 1819). *V. Rafinesquii* was, then, in Virginia

two centuries ago. It is now a ubiquitous weed especially of roadsides, or in lawns, worn-out fields, pastures and pastured woodlands in many areas from New Jersey and eastern Pennsylvania to Georgia; also occasional to common from Connecticut to Nebraska, south to the Gulf States. If in the 18th century it was as common as today and if it be indigenous through its present extensive area in the Atlantic States, it is most singular that Pehr Kalm, arriving in Philadelphia in 1748 and exploring from that center in the spring of 1749 should not have noted it; that Walter, dating the preface to his *Flora Caroliniana* "ad Ripas Fluvii Santee, 30 Dec. 1787," should not have got it; that Elliott, publishing the section including *Viola* in 1817, should have had it from no station in South Carolina and from only a single station in Georgia, whence it was sent to him.¹ Darby, covering the "Southern States" in different editions from 1841 to 1860, apparently knew of *Viola Rafinesquii* (as *V. arvensis*) only through Elliott's single station for the plant. In 1860, in the first edition of his *Flora of the Southern States*, Chapman, under *V. tricolor*, var. *arvensis*, said "Cultivated ground. Introduced" and he repeated this treatment in the second edition (1883); but in his third edition (1897) he changed to "Open woods and waste places, perhaps indigenous." Many other records from literature could be quoted, all of the same character, indicating that the pretty lavender-flowered "Field Pansy" of eastern North America was not much known to the acute observers of the 18th and the first decades of the 19th century, but that now it is often a ubiquitous weed over large areas. I have noted from the labels of collections of *V. Rafinesquii* in the Gray Herbarium the habitats recorded. 39 numbers have no habitat given. The remainder are as follows: "native," 1; dry open woods, 8; dry sandy hill (or slope), 4; rocky hill (or summit), 3; open rocky soil, 2; bank of creek, 1; meadows, 5; dry fields, 14; clearings, 3; old orchard, 1; pasture, 3; cultivated field, 2; railroad embankment, 2; roadside, 11; waste places, 11. Pursh's *V. bicolor* (1814) came from "fields of Pennsylvania and Virginia." If the plant were indigenous we should expect the overwhelming majority of habitats to be undisturbed or primitive ones and that the species would now be rarer than it was two centuries (or only one century) ago. The majority of habitats are,

¹ Elliott placed his specimen under *Viola arvensis*, defined with "calyx pubescent, rather longer than the corolla"; but he added "*Calyx* ciliate, in my specimens shorter than the corolla . . . My specimens agree exactly with one sent me from Pennsylvania by Dr. Muhlenberg."

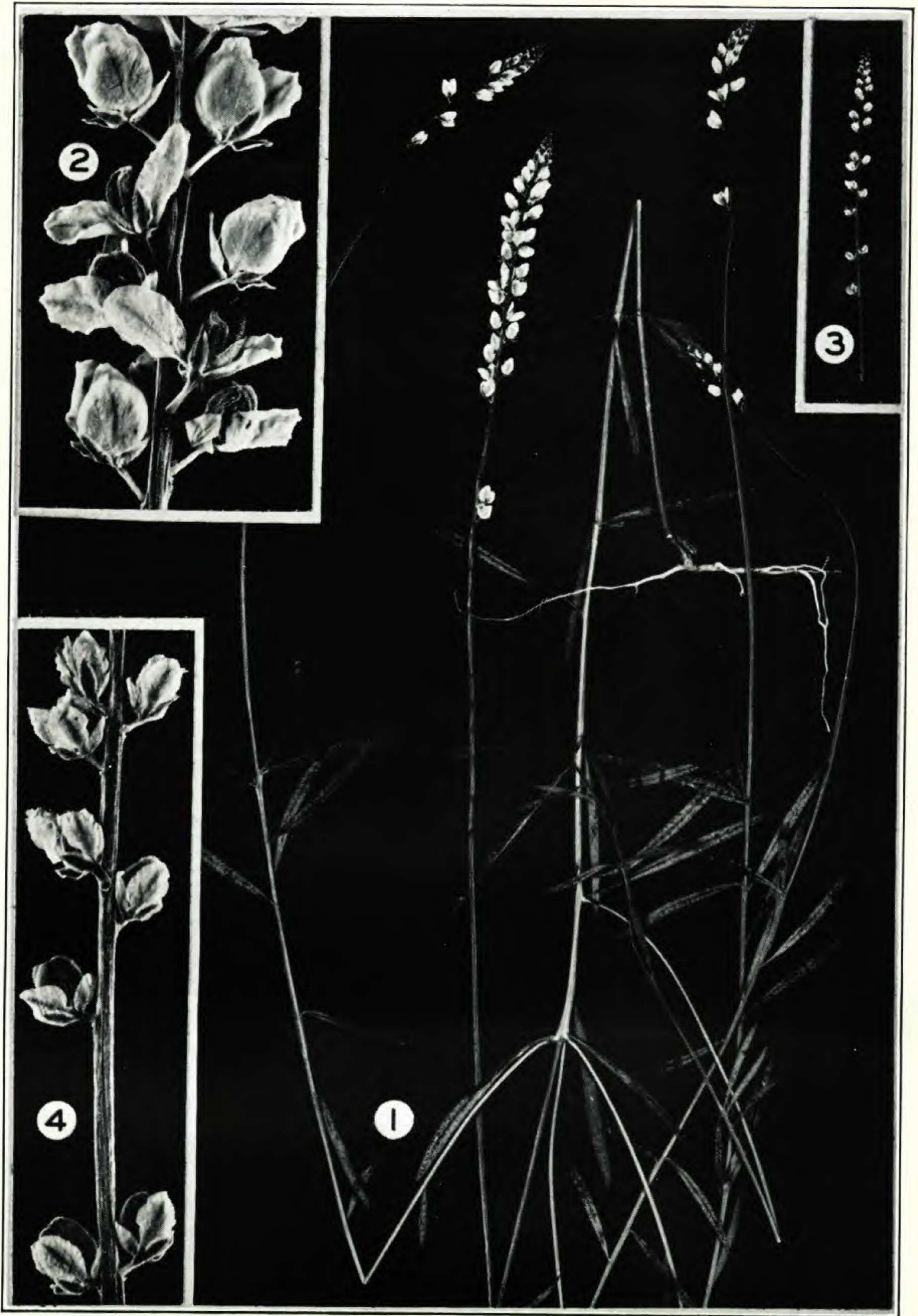


Photo. H. G. Fernald.

POLYGALA VERTICILLATA, var. *DOLICHOPTERA*: FIG. 1, TYPE, $\times 1$; FIG. 2, portion of raceme, $\times 6$.

Var. *AMBIGUA*: FIG. 3, raceme, $\times 1$; FIG. 4, portion of raceme, $\times 6$.

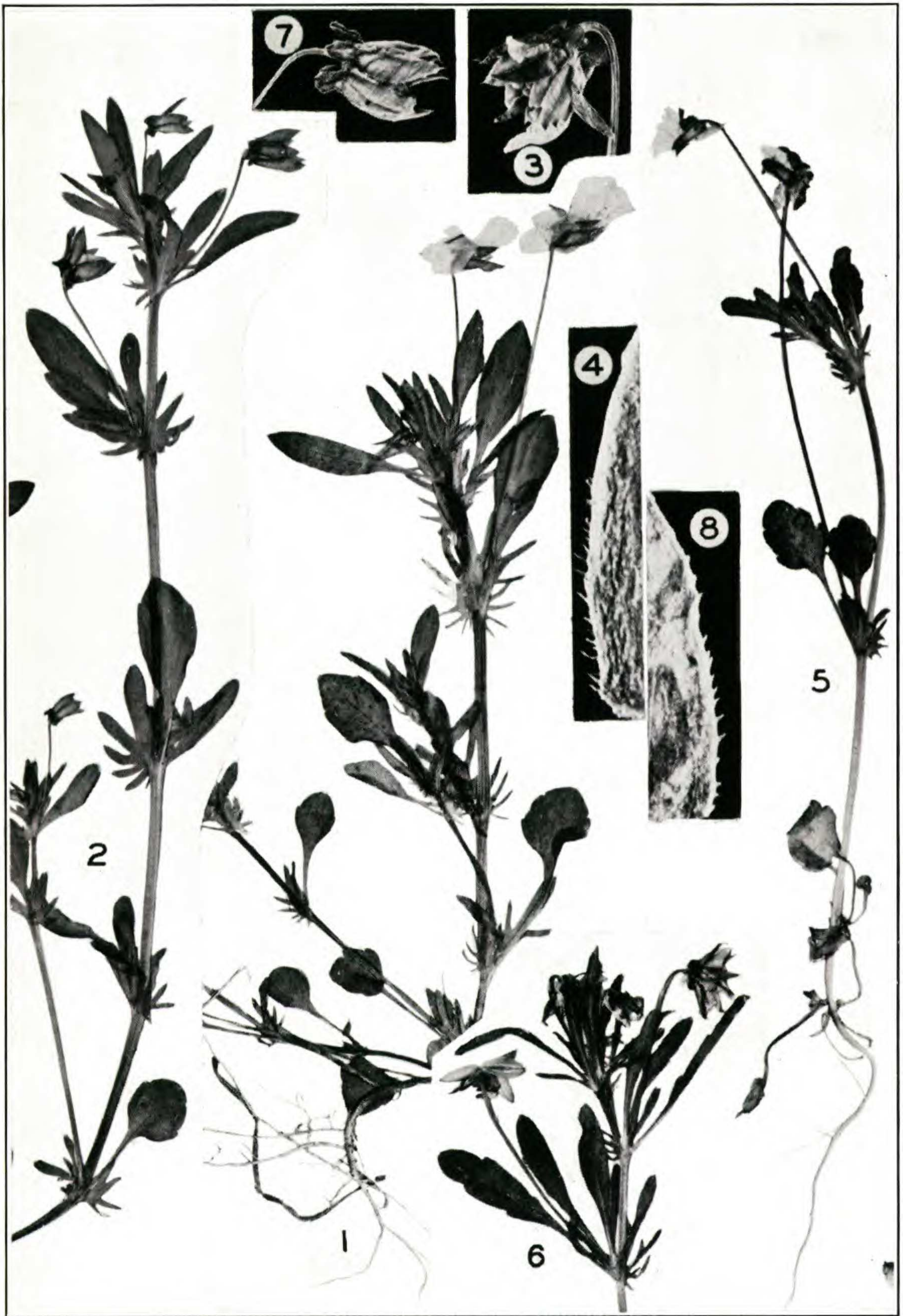


Photo. H. G. Fernald.

VIOLA KITAIBELIANA: FIG. 5, flowering plant, $\times 1$, from Switzerland; FIG. 6, fruiting summit, $\times 1$, from Bithynia; FIG. 3, calyx, $\times 2$, from same plant as FIG. 6; FIG. 8, margin of sepal, $\times 8$, from Bohemia.

V. KITAIBELIANA, var. *RAFINESQUII*: FIG. 1, portion of flowering plant, $\times 1$, from District of Columbia; FIG. 2, portion of plant, $\times 1$, from Pennsylvania; FIG. 7, calyx, $\times 2$, from Pennsylvania; FIG. 4, margin of sepal, $\times 8$, from Pennsylvania.

however, spots cleared by the white man or the negro or disturbed by him, his cattle or his hogs. Mixed in the herbarium with specimens of the *Viola* are often found *Veronica arvensis* or *Stenophragma Thaliana*; and the label of W. Becker's VIOLAE EXSICCATAE, II Lief. 1901, no. 48, of *V. Rafinesquii* is quite typical: "**Flora Americ. boreal:** Brookland D. C.; locis graminosis, ad vias, in pratis, frequens. . . . *Begleitpflanzen:* Lamium amplexicaule, Veronica peregrina, Lithospermum arvense, Poa pratensis etc."

It would be a pleasant thought, and by several enthusiastic Americans it has been urged, that we have an indigenous pansy in America. Phytogeographically, however, the pansy-group belongs in a region (chiefly continental and southern Europe and adjacent northern Africa and western Asia) with which the indigenous flora of the temperate eastern United States has little in common. The pansies are native, however, in an area which has supplied many of our long-established and still just arriving weeds. Consequently, my first introduction in the field to *Viola Rafinesquii*, an aggressive weed, monopolizing the uninviting band of thin soil between the rails of the trolley-tracks and the worn-out waste fields and neglected lawns about Richmond, Virginia, coupled with Mr. Long's assurance that in his experience it always looks like a weed, quite upset the impression gained from our manuals of recent years, that the plant is native. In similar habitats in the southeastern states we get the Mediterranean *Alchemilla microcarpa* Boiss. & Reut., which has been mistaken by Rydberg for an endemic American and called *Aphanes australis* Rydb. in N. Am. Fl. xxii. 380 (1908).¹

Our *Viola Rafinesquii* (FIGS. 1, 2, 4 and 7) strongly suggests in the outlines of its leaves and stipules the southern European *V. Kitaibeliana* Roem. & Schultes (FIGS. 3, 5, 6 and 8) but its leaf-blades are more commonly entire and its lilac- or lavender-tinged petals (FIG. 1) are larger than in any specimens of the latter (FIG. 5) in the Gray Herbarium. Knowing that I should get an authoritative identification by sending some Virginian specimens to the distinguished student of the Iberian flora, Mr. A. J. Wilmott of the British Museum, I ventured to put my problem before him. Wilmott's answer follows:

As soon as I saw your specimens of *Viola Rafinesquii* I said to myself that surely they were *Viola Kitaibeliana* Schultes, which is a common ally of *Viola arvensis* Murr. in the Mediterranean region. It differs from *V.*

¹ See discussion on previous page.

arvensis in several characters, notably the short pubescence in the lower part of the plant (stem), the longer narrower terminal lobe of the stipule, the shorter stumplier spur. Usually, however, it has very small flowers, the petals being scarcely or not longer than the sepals, whereas in your specimens they are definitely larger. I find, however, that among the mass of specimens that we received from Macedonia during the war, there are quite a number of specimens that have the petals as large as in your plant. Yours also has the long peduncles, and, to judge from a gathering from Maryland by Blake, which is the only one in the herbarium, they stand out 45 degrees or more from the stem when fruiting, giving a "diverging" effect unlike that usual in *V. arvensis*.

The chief objection to this determination lies in the strongly ciliate margin to the sepals in *V. Rafinesquii* as illustrated by the specimens you sent. Blake's are slightly less markedly so, but even so they are more ciliate than in any of our specimens of *V. Kitaibeliana*. On the other hand, although most sepals in our material of *V. Kitaibeliana* have no ciliate hairs, or very minute and inconspicuous ones, on the margins of the sepals, some (including one of the gatherings with large flowers) has the margins almost as densely puberulous as those of *V. Rafinesquii* are ciliate, and also in some sepals the short hairs are replaced by ciliae just as long as in *V. Rafinesquii*.

The foliage is quite good for *V. Kitaibeliana*, as is also the habit. There is, indeed, almost nothing wrong with that determination except that I cannot exactly match it among our material. Yet one knows that *V. arvensis* is so variable, with many forms, and also *V. Kitaibeliana* is very variable, although the different forms have not been thoroughly worked out if they exist, that I feel that if we had a larger series from all parts, we should be able to find specimens just like *V. Rafinesquii*, and thus possibly find from what part of Europe (or North Africa) it was imported. Those from Macedonia and the Southern Caucasus seem to have the strongest ciliation to the sepals, and also the more frequently larger flowers. I find no other species which it could be from Europe if it is not a form of *V. Kitaibeliana*.

Is the ciliation constant in your plant?

The ciliation (FIG. 4) is essentially constant in the American series. I am unable to find in our series any specimens with so few cilia on the sepals as in the most ciliate calyces (FIG. 8) of the European plant. With Wilmott's prediction in mind, that somewhere in the Mediterranean region exact matches for our plant must be found and considering his statement that quite as large petals sometimes occur in Europe, it seems probable that a rare but unrecognized extreme was early brought from southern Europe or northern Africa and that in a new environment it has become quite stabilized. If this interpretation is correct, then *Viola Kitaibeliana*, var. *Rafinesquii*, rapidly spreading and aggressive in eastern America but rare (in this case perhaps unknown) in Europe takes its place with several other weeds which with us have become vastly more common than they are in the country of their origin.

HYBANTHUS CONCOLOR (Forster) Spreng. SURRY COUNTY: rich woods on fossiliferous sandy slopes of gullies, Claremont Wharf, nos. 7916, 8374. See pp. 375, 382.

An inland type.

DIRCA PALUSTRIS L. SURRY COUNTY: rich woods, slopes of gully 1½ miles north of Surry, no. 8375, the dominant shrub under *Fagus*, reaching a height of 3 m. and trunk-diameter of 7 cm. See p. 383.

In the single extensive area, slopes of a gully tributary to Gray's Creek, the shrub is very abundant. We had seen it nowhere else on the Coastal Plain, nor did Grimes find it on the Peninsula of Virginia.

RHEXIA MARIANA L., var. *PURPUREA* Michx. Range extended inland to DINWIDDIE COUNTY: sphagnous bog about 1 mile northeast of Burgess, no. 7546.

LUDWIGIA SPHAEROCARPA Ell., var. *JUNGENS* Fernald & Griscom in *RHODORA*, xxxvii. 174, t. 348, figs. 3 and 4 (1935). To the type-station at Cape Henry add several new records. ISLE OF WIGHT COUNTY: sandy and peaty border of Cat Pond, south of Benns Church, no. 7547. NANSEMOND COUNTY: canal in Great Dismal Swamp, east of Laurel, no. 8791. SUSSEX COUNTY: swampy clearing north of Stony Creek, no. 8790. GREENSVILLE COUNTY: pool in *Cephalanthus* swamp about 1 mile north of Skipper's, no. 8788. YORK COUNTY: borders of small pond-holes in woods, northwest of Grafton, no. 7548. See p. 371.

L. BREVIPES (Long) E. H. Eames. ISLE OF WIGHT COUNTY: sphagnous border of Cat Pond, south of Benns Church, no. 8376.

Extension inland from Norfolk County.

PROSERPINACA PECTINATA Lam. GREENSVILLE COUNTY: pool in cut-over sphagnous pine and oak woods near Three Creek, north of Emporia, no. 8379. YORK COUNTY: borders of small pond-holes in woods, northwest of Grafton, no. 7552. WARWICK COUNTY: shallow pool in woods, north of Lee Hall, no. 8795. See p. 371.

ARALIA RACEMOSA L. SURRY COUNTY: rich calcareous wooded gullies along James River, Claremont Wharf, nos. 8380, 9112 (3 m. high!). See p. 382.

Found in a similar habitat near Williamsburg by Grimes.

ERYNGIUM YUCCIFOLIUM Michx. SUSSEX COUNTY: dry open sandy pine and oak thickets, near the Greenville County line, south of Jarratt, nos. 8385, 9387. PRINCE GEORGE COUNTY: border of woods north of Talpa, no. 8801. See p. 379.

In regard to the unjustified use of the name *Eryngium aquaticum* for this upland species see Britten & Baker, *Journ. Bot.* xxxviii. 243 (1900). The species is cited as occurring northward to Connecticut; but in *Cat. Fl. Pl. Ferns of Conn.* is the note "Introduced from the

South, or possibly native." Except for this presumably adventive colony in a sandy field at Bridgeport, Connecticut ("sparingly naturalized"), Coulter & Rose cite nothing in the East from north of the interior of Virginia.

SANICULA MARILANDICA* L., var. **petiolulata, var. nov. (TAB. 527), foliolis foliorum 1-2 imorum caulinarum longe petiolulatis, petiolulis 1.5-5 cm. longis.—VIRGINIA: dry sand, pine barrens about 7 miles south of Franklin, Southampton County, September 7 and 8, 1937, *Fernald & Long*, no. 7553 (TYPE in Gray Herb., isotypes in Herb. Phil. Acad. and elsewhere). See p. 366.

Typical *Sanicula marilandica* has the leaflets of the lower (as well as the upper) leaves all sessile or on very short petiolules (rarely up to 1.5 cm. long). The plant in the pine barrens south of Franklin has all the petiolules of the 1 or 2 lower leaves with extraordinarily long foot-stalks. The habitat is likewise extraordinary for any form of the species (ordinarily of damp and rich habitats). The type-colony is under *Quercus laevis* Walt. and *Viburnum rufidulum* Raf.; and close by are characteristic colonies of such pine-barren species as *Aristida virgata* Trin., *Tradescantia rosea*, var. *graminea* (Small) Anders. & Woodson, *Myrica pusilla* Raf., *Asimina parviflora* (Michx.) Dunal, *Stillingia sylvatica* L., *Euphorbia Ipecacuanhae* L., *Opuntia humifusa* Raf., *Phlox nivalis* Lodd., *Carphephorus bellidifolius* Michx. and other species of dry pineland which we ordinarily do not associate with *Sanicula marilandica*.

S. GREGARIA Bicknell. Frequent in rich woods eastward at least to SURRY, SUSSEX and NANSEMOND COUNTIES (many nos.). See p. 382.

**S. SMALLII* Bicknell. HANOVER COUNTY: rich woods north of Gum Tree, no. 7554. SOUTHAMPTON COUNTY: rich deciduous woods, northeast of Statesville, nos. 7917, 8384. See pp. 365, 378.

Extension north from North Carolina.

CHAEROPHYLLUM TAINTURIERI Hook. GREENSVILLE COUNTY: weed in freight-yard, Emporia, no. 7920.

C. PROCUMBENS (L.) Crantz. Extending locally into the Coastal Plain in SURRY COUNTY: by brook in drained cypress swamp, Claremont Wharf, no. 7921.

OSMORHIZA LONGISTYLIS (Torr.) DC., var. *VILICAULIS* Fern. SURRY COUNTY: rich calcareous wooded gullies by James River, Claremont Wharf, no. 8386; similar habitat below Sunken Meadow Beach, no. 8387. See p. 383.

The plant with glabrous stems not seen.

CRYPTOTAENIA CANADENSIS (L.) DC. In rich deciduous (chiefly

calcareous) woods eastward to SUSSEX and SURRY COUNTIES (many nos.). See p. 382.

THASPIUM BARBINODE (Michx.) Nutt. SURRY COUNTY: rich wooded slope at head of Sunken Meadow Creek, south of Claremont, nos. 7922, 8390; seen in similar habitat at Eastover. SUSSEX COUNTY: moist woods bordering Assamoosick Swamp, about 2 miles northeast of Homeville, no. 9114. See pp. 375, 382.

OXYPOLIS RIGIDIOR (L.) Coult. & Rose. Localized in sphagnous boggy depressions of DINWIDDIE, PRINCE GEORGE, SUSSEX and GREENSVILLE COUNTIES (many nos.), and doubtless elsewhere. See p. 367.

In southeastern Virginia *Oxypolis rigidior* is often the quickly visible indicator of a good habitat. Three of its stations have proved to be among the best of sphagnous depressions, with many localized Coastal Plain types present.

RHODODENDRON NUDIFLORUM (L.) Torr., var. GLANDULIFERUM (Porter) Rehder. SOUTHAMPTON COUNTY: bottomland swamp of Nottoway River, Smith's Ferry, no. 7928.

Very rare on the Coastal Plain, Rehder in his *Azaleas of North America*, 138 (1921) saying: "from Massachusetts to northwestern South Carolina and often grows together with the typical form. It seems, however, nearly absent from the southeastern part of the range, that is from the coastal plain from New Jersey to North Carolina and more common West, for the plants I have seen from the extreme Western localities, western Tennessee and southern Ohio, represent this variety though from the last named locality (Lawrence County) and from western New York (Monroe County) I have seen specimens of the typical form."

KALMIA ANGUSTIFOLIA L., var. CAROLINIANA (Small) Fernald. NANSEMOND COUNTY: low pinelands east of Whaleyville, no. 7564.

The known Virginian stations have all been in the Great Dismal Swamp.

EPIGAEA REPENS L. Very local on the Coastal Plain. PRINCE GEORGE, ISLE OF WIGHT, SURRY and SOUTHAMPTON COUNTIES: local colonies too liable to extermination.

HOTTONIA INFLATA Ell. To the few recorded stations add SOUTHAMPTON COUNTY: inundated swamp west of Adams Grove, no. 7944. SURRY COUNTY: shallow water of gum swamp, Blackwater River, south of Savedge, no. 8405.

LYSIMACHIA CILIATA L. Rich deciduous or bottomland woods, eastward to JAMES CITY, SURRY and SUSSEX COUNTIES (many nos.).

FRAXINUS AMERICANA L. Extending eastward along the James to

SURRY COUNTY: below Sunken Meadow Beach, no. 8414. See pp. 375, 382.

F. BILTMOREANA Beadle. DINWIDDIE COUNTY: swampy woods, Poplar Grove (= Poplar Spring) Church, no. 8413. SOUTHAMPTON COUNTY: sphagnous wooded spring-heads east of Emporia, no. 8415. See p. 380.

FRAXINUS TOMENTOSA Michx. f. *Hist. Arb. Am.* iii. 112, t. 9 (1813). *F. Americana profunda* Bush in *Mo. Bot. Gard. Fifth Ann. Rep.* 147 (1894). *F. profunda* Bush in Britton, *Man.* 725 (1901). *F. Michauxii* Britton, *Man.* ed. 2: 1075 (1905). *F. profunda*, var. *Ashei* E. J. Palmer in *Journ. Arn. Arb.* xiii. 417 (1932). PLATE 528.

Originally treated as a variation (category not indicated) of *Fraxinus americana*, from which it differs "in the strong pubescence of the shoots, the large size of the leaves, and the very large fruit, the shaft of which is often strongly six-sided," *F. profunda* was further defined in Britton's Manual by its being placed with *F. pennsylvanica* Marsh. and by its larger samara with more decurrent wing. The material distributed by Bush shows that the long-acuminate subcoriaceous leaflets are on definite wingless petiolules (FIG. 3); the samaras (FIG. 4) without sharply defined slender bodies, the mature fruits 4–7.5 cm. long, with wing 6–12 mm. broad; the fruiting calyx rather large for the group. Exactly such trees, though often lower, are abundant along the rivers and in the wooded swamps of eastern Virginia, the specimens identified variously as *F. pennsylvanica* and *F. profunda*, with note sometimes made of the lustrous upper surfaces of the subcoriaceous leaflets. In this tree the petiolules (FIG. 5) are quite as definite as those of *F. americana* but mostly longer (0.5–2 cm. long). In the polymorphous *F. pennsylvanica* (PLATE 529) the petiolules are bordered nearly to their bases by the decurrent tissue of the blades and the fruits have clearly defined slenderly clavate bodies sharply contrasted with the wings which extend only narrowly below the middle.

True *Fraxinus pennsylvanica* Marsh. I take to be the common tree (PLATE 529, FIGS. 3 and 4) of Marshall's region in Pennsylvania, defined by him as having the fruits ("seeds") "longer and narrower than any of the other kinds, almost terminating in a point at their base," for which reason, presumably, he called it "*Pennsylvanian Sharp-keyed Ash*." The tree, abundantly represented from Marshall's region, was described as *F. Darlingtoniana* Britton, l. c. 725 (1901). It occurs from the warmer valleys of New England to Minnesota,



Photo. H. G. Fernald.

SANICULA MARILANDICA, var. PETIOLULATA, $\times \frac{1}{2}$.



Photo. H. G. Fernald.

FRAXINUS TOMENTOSA, lateral leaflet and samaras: FIGS. 1 and 2, after Michaux filius; FIGS. 3 and 4, *P. profunda* from Missouri; FIGS. 5 and 6, from Virginia.

south to Georgia, Alabama and Arkansas, but the only material of it which I have seen from southeastern Virginia is Grimes's no. 3880 from near Williamsburg.

The broader-fruited *Fraxinus profunda*, on the other hand, is represented in the Gray Herbarium by the following Virginia collections: Chickahominy River, near Lanexa, *Grimes*, no. 4126; James River, near Richmond, April 24, 1915, *J. R. Churchill* (in fine staminate flower, showing the subulate tips of the anthers 0.5–1 mm. long, whereas the mucronate tips in *F. pennsylvanica* are only 0.2–0.4 mm. long); swampy woods, London Bridge, Princess Anne County, *Fernald & Long*, no. 4128; Indian Creek, Norfolk County, *Fernald, Griscom & Long*, no. 4690; Appomattox River, near Hopewell, *Fernald, Long & Smart*, no. 5890; Three Creek, Drewryville, *Fernald, Long & Smart*, no. 5891 (FIGS. 5 and 6). Palmer includes in his *F. profunda*, var. *Ashei* specimens from the Potomac Valley and from the Eastern Shore of Maryland, and it may reach southern New York.¹

The tree is so characteristic of the river-swamps and dismals in southeastern Virginia that it seemed improbable that it should have been overlooked by Michaux and other early collectors who went through the region. André Michaux and his son Francois André, it now seems clear, got it and the younger Michaux described and beautifully illustrated it, his plate showing the wholly characteristic foliage with slender petiolules and the quite distinct fruit. *F. tomentosa* came from "la Pensylvanie, le Maryland et la Virginie" and the illustration (see our FIGS. 1 and 2), presumably from the common tree

¹ I take it that *Fraxinus tomentosa* Michx. fil. also includes *F. Michauxii* Britton, *Man.* ed. 2: 1075 (1905). Britton's description is satisfactory for it and he originally stated that his *F. Michauxii* (type from southeastern New York) is "*F. tomentosa* Michx. f. *Arb. For.* 3: *pl.* 9, but not as to the description there given, which applies to *F. Pennsylvanica*." In view of the very confused ideas regarding what constitute stable characters in the group it is disconcerting to be told that, when Michaux filius illustrated his own new species, he was really illustrating something else. The matter was not really clarified when in his *North American Trees*, 804 (1908) Britton said of his *F. Michauxii* "The species was illustrated by Michaux as *Fraxinus tomentosa* Marshall." I can find no such name used by Marshall and Michaux (André) did not publish it nor illustrate it; it was first published by Michaux filius (Francois André) and has by everyone, except Britton in this instance, been ascribed to him. Even *F. epiptera* Michx. *Fl. Bor.-Am.* ii. 256 (1803), commonly treated as identical with *F. americana* L., is open to question. My memorandum made in 1903, when examining Michaux's herbarium, says "Foliage of *F. pennsylvanica*." A photograph of it, daily expected, will settle its identity. One thing seems reasonably settled. The Clayton specimen (a photograph before me) which Linnaeus had before him in preparing his *Species Plantarum* (1753) and himself marked "*americana*" is a characteristic leaf of *F. americana* as regularly understood. From that one Linnean species on the types of the American species must be studied anew.